

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

Claims 1-13 (Canceled).

14. (Previously Presented): An *in vitro* method for producing CAPRI cells having specificity for cancer antigens, the method comprising:

(a) producing activated antigen presenting cells (APC) by primary stimulation that exposes peripheral-blood mononuclear cells (PBMC) obtained from a first biopsy to at least one agent that activates T cells;

(b) obtaining, from a second biopsy, naïve PBMC comprising T cells that are naïve with respect to one or more cancer antigens;

(c) incubating the naïve PBMC in the presence of the activated PBMC to activate the naïve PBMC; and

(d) expanding subsequently the population of cells (CAPRI cells), derived from the activated naïve PBMC, comprising activated T cells having specificity for the cancer antigens,

wherein the cancer antigens are presented by the activated APC obtained from the first biopsy to the naïve T cells obtained from the second biopsy in the context of a MHC complex expressed on the surface of the activated APC.

15. (Previously Presented): The *in vitro* method of Claim 14 further comprising:

(e) optionally incubating the CAPRI cells produced in (d) in the presence of a second naïve PBMC to activate the second naïve PBMC; and repeating (d),

wherein a cycle of (e) and (d) is repeated up to seven times.

16. (Previously Presented): The *in vitro* method of Claim 14, wherein the activated antigen presenting cells (APC) of the PBMC obtained from the first biopsy and the naïve T cells of the PBMC obtained from the second biopsy are derived from a single cancer patient donor.

17. (Previously Presented): The *in vitro* method of Claim 14, wherein the activated antigen presenting cells (APC) of the PBMC obtained from the first biopsy are derived from a cancer patient, and

wherein the naïve T cells of the PBMC obtained from the second biopsy are derived from an allogenic donor different from the cancer patient, and express a HLA haplotype of sufficient similarity to the HLA haplotype of the cancer patient.

18. (Previously Presented): The *in vitro* method of Claim 14, wherein the naïve T cells of the PBMC obtained from the second biopsy are derived from a cancer patient, and

wherein the activated antigen presenting cells (APC) of the PBMC obtained from the first biopsy are derived from an allogenic donor different from the cancer patient, and express a HLA haplotype of sufficient similarity to the HLA haplotype of the cancer patient.

19. (Previously Presented): The *in vitro* method of Claim 17, wherein the naïve T cells of the PBMC obtained from the second biopsy are derived from a cervical cancer patient induced by a human papilloma virus (HPV), and

wherein the activated antigen presenting cells (APC) of the PBMC obtained from the first biopsy are derived from an allogenic donor different from the cancer patient, and are resistant to HPV.

20. (Previously Presented): The *in vitro* method of Claim 14, wherein the activated antigen presenting cells (APC) of the PBMC obtained from the first biopsy and the naïve T cells of the PBMC obtained from the second biopsy are both derived

from an allogenic donor, and wherein the allogenic donor expresses a HLA haplotype of sufficient similarity to the HLA haplotype of a cancer patient.

21. (Previously Presented): The *in vitro* method of Claim 20, wherein the allogenic donor is exposed to an identifiable carcinogenic factor.

22. (Previously Presented): The *in vitro* method of Claim 14, wherein at least one agent for activating T cells comprises at least one of:

- an immobilized anti-CD3 antibody;
- an anti-CD3 antibody;
- an anti-B7 antibody;
- a lectin; and
- a calcium ionophore.

23. (Previously Presented): The *in vitro* method of Claim 14, wherein producing activated antigen presenting cells (APC) comprises:  
exposing the PBMC to anti-CD3 antibodies.

24. (Previously Presented): The *in vitro* method of Claim 14, wherein producing activated antigen presenting cells (APC) comprises:  
exposing at one least one agent to the PBMC in an amount of about 10-20 million.

25. (Previously Presented): The *in vitro* method of Claim 14, wherein producing activated antigen presenting cells (APC) further comprises:  
exposing the PBMC in the presence of interleukin-2 (IL-2) and/or adding IL-2 after exposing to at least one agent.

26. (Previously Presented): The *in vitro* method of Claim 14, wherein producing activated antigen presenting cells (APC) further comprises:

exposing the PBMC to IL-4, GMCSF, and/or INF-gamma.

27. (Previously Presented): The *in vitro* method of Claim 14, wherein incubating the naïve PBMC in the presence of the activated PBMC comprises:

incubating together in a ratio that ranges from about 10:1 to 1:10 when expressed as a ratio of the number of activated PBMC to the number of naïve PBMC.

28. (Previously Presented): The *in vitro* method of Claim 14, wherein incubating the naïve PBMC in the presence of the activated PBMC further comprises:

adding a cytokine to induce the proliferation of the CAPRI, wherein the cytokine is at least one of IL-4, GMCSF, and/or INF-gamma.

29. (Currently Amended): A method for treating cancer, the method comprising:

(a) producing activated antigen presenting cells (APC) by primary stimulation *in vitro* that exposes peripheral-blood mononuclear cells (PBMC) obtained from a biopsy to anti-CD3 antibodies;

(b) obtaining naïve PBMC comprising T cells that are naïve with respect to one or more cancer antigens;

(c) incubating the naïve PBMC in the presence of the activated PBMC to activate the naïve PBMC *in vitro*;

(d) expanding subsequently *in vitro* the population of cells (CAPRI cells), derived from the activated naïve PBMC, comprising activated T cells having specificity for the cancer antigens; and

(e) administering the CAPRI cells of Claim 14 into a cancer patient,

wherein the cancer antigens are presented by the activated APC obtained in step (a) to the naïve T cells in the context of a MHC complex expressed on the surface of the activated APC, and

wherein the primary stimulation and/or the activation of naïve PBMC occurs in the presence of at least one cytokine selected from the group of interleukin-2 (IL-2), interleukin-4 (IL-4), and interferon  $\gamma$  (IFN  $\gamma$ ).

30. (Currently Amended): The method of Claim 29, wherein the cancer is [[a]] selected from the group consisting of melanoma, [[a]] breast carcinoma, colorectal carcinoma, ovarian carcinoma, [[a]] glioblastoma multiform, or a and bowenoid papilloma.

31. (Previously Presented): The method of Claim 29, wherein administering the CAPRI cells comprises:  
injecting CAPRI cells intradermally, intravenously, and/or intramuscularly.

32. (Previously Presented): The method of Claim 29, wherein administering the CAPRI cells comprises:  
injecting CAPRI cells in a dosage range from about 0.5 to about 30 million cells per injection into the cancer patient.

33. (Previously Presented): The method of Claim 29, wherein administering the CAPRI cells comprises:  
administering CAPRI cells into a tumour of the cancer patient, wherein the diameter of the tumour is about 0.5 cm or less.

34. (Previously Presented): The method of Claim 29, wherein the CAPRI cells are administered in conjunction with radiotherapy.

35. (Previously Presented): The method of Claim 29, wherein administering the CAPRI cells further comprises:

administering CD-3 activated T cells.

Claims 36-39 (Cancelled).

40. (New): The method of Claim 29 further comprising:

(d') optionally incubating the CAPRI cells produced in (d) in the presence of second naïve PBMC to activate the second naïve PBMC *in vitro*; and  
repeating (d),  
wherein a cycle of (d') and (d) is repeated up to ten times.

41. (New): The method of Claim 29, wherein the activated antigen presenting cells (APC) of the PMC activated in step (a) and the naïve T cells of the PBMC are derived from a single cancer patient donor.

42. (New): The method of Claim 29, wherein the activated antigen presenting cells (APC) of the PBMC activated in step (a) and/or the naïve T cells of the PBMC are derived from an allogenic donor expressing a HLA haplotype of sufficient similarity to the HLA haplotype of the cancer patient.

43. (New): The method of Claim 29, wherein the anti-CD3 antibodies comprise immobilized antibodies.

44. (New): The method of Claim 29, wherein incubating the naïve PBMC in the presence of the PBMC activated in step (a) comprises:

incubating together in a ratio that ranges from about 10:1 to 1:10 when expressed as a ratio of the number of activated PBMC to the number of naïve PBMC.